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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,860	03/23/2005	Miles Maiden	108030-0005	4172
24267 7590 01/10/2008 CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			EXAMINER CECIL, TERRY K	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 01/10/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,860	Applicant(s) MAIDEN, MILES	
	Examiner Mr. Terry K. Cecil	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3-23-2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>two</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION***Claim Rejections - 35 USC § 103***

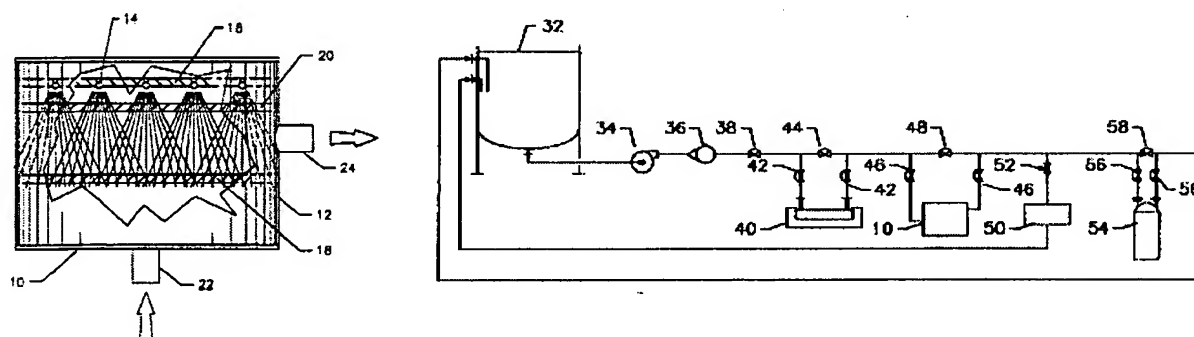
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 15-21, 24-26, and 32-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carmignani et al. (U.S. 6,524,447) in view of Forsberg et al. (U.S. 6,182,453) and Engelhard et al. (U.S. 6,461,520).

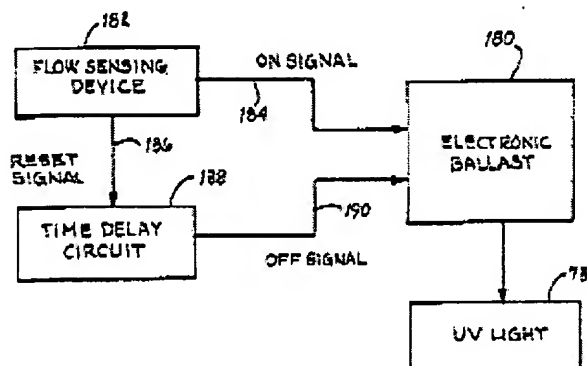


Carmignani teaches a portable (col. 8, line 45) water filtration system including a purification module 10 that is positioned “within” the tubing 22/24. The module includes UV LEDs 14 radiating the water flowing therethrough. He also teaches a pump 34.

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Carmignani teaches his system can be used in portable battery-powered applications but doesn't specifically teach a power supply providing DC power to the UV devices. However, Forsberg teaches a DC battery powered source for the UV devices, as well as solar charged batteries (col. 1, lines 25-27; col. 10, lines 19-200; and col. 44, line 19) [as in claims 15, 20-21, 32-34, 38 and 40-41]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the UV device power sources of Forsberg in the invention of Carmignani, since Forsberg teaches the benefit of using the device to purify water in places remote from conventional public power systems.

Carmignani teaches a water flow meter 36 but doesn't specifically teach his UV devices configured to turn on when water is flowing through the system and turning off when water ceases. However, Engelhard teaches a system controlling power to a UV device depending upon water flow through the system indicated by a flow sensor device 182 [as in claims 15-16, 32 and 38].



It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the power source of the modified

Carmignani controlled by a flow sensing device, as in Engelhard, since such would provide the benefit of using energy to power the UV devices only when necessary for efficiency.

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As shown in figure 1 of Carmignani, the purification module includes a wider section (between 18 and 20) for allowing water to flow past the UV devices unimpeded [as in claims 24, 35 and 42].

Carmignani also teaches a filtration system 54 (col. 14, lines 3-6) [as in claims 26, 38 and 37].

As for claims 25, 36 and 39, converting energy from the pumping action to DC power is known, as admitted by the applicant (see paragraph [0026] of his published application).

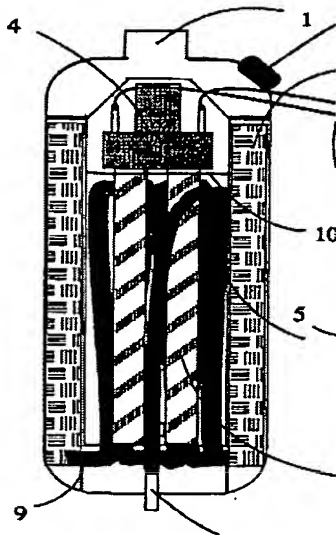
As for the amount of radiation applied to the water of claims 36 and 43, such is considered to be within ordinary skill depending up the amount of contaminants in the water stream and the degree of purity required for the intended application.

In claim 15, the “means for signaling” is taken as being the flow sensor 20 in applicant’s specification, or structural equivalents thereof. Carmignani also teaches a container 32.

As for claims 17 and 19, the signal can include be a user activated valve (col. 7, line 45) or switch (col. 7, lines 55-57) of Engelhard.

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3. Claims 15, 22-23, and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the German Reference DE 4228860 A1, hereinafter '860 in view of Carmignani and



Engelhard and Iana et al. (U.S. 5,167,819) and Morrow (U.S. 6,712,414).

'860 teaches a container (which can be considered a water bottle) [as in claim 31] including a 12 volt power supply and a UV lamp for sterilizing the water for drinking. '860 doesn't teach the UV source to be UV LEDs but such is taught by Carmignani. As shown in figure 1, Carmignani teaches UV LEDs 14. It is considered that it would have been obvious to one ordinarily

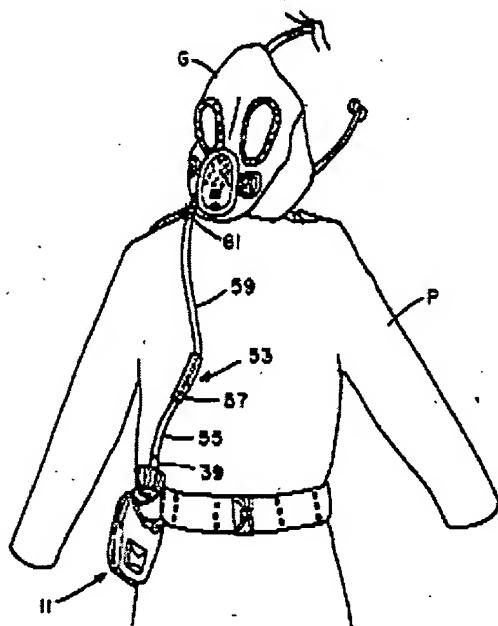
skilled in the art at the time of the invention to have the UV lamps of '860 to be replaced with the UV LEDS of Carmignani, since Carmignani teaches the benefit of only requiring low power electrical energy per LED, making it both safe for the user in an environment that includes both water and electricity that enables the reactor to be utilized in portable applications (battery powered). Upon modification, the UV LEDS 14/16 would become part of the wall of the container and 18/20 define the tubular space for water [as in claim 27].

The modified '860 doesn't teach his UV devices configured to turn on when water is flowing through the system and turning off when water ceases. However, Engelhard teaches a system controlling power to a UV device depending upon water flow through the system indicated by a flow sensor device 182 [as in claim 15], wherein, the signal can include be a user activated switch (col. 7, lines 55-57 of Engelhard) and wherein the lamp turns on when sufficient power is

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present [as in claims 28-29]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the power source of the modified '860 to be controlled by a flow sensing device, as in Engelhard, since such would provide the benefit of using energy to power the UV devices only when necessary for efficiency.

The modified '860 doesn't teach a wearable pack but such is taught by Iana.



Iana teaches a water bladder (bottle) in a wearable pack [as in claims 22 and 30]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the modified bottle of '860 in the wearable pack of Iana, since such would provide the benefit of ease of portability for the camper.

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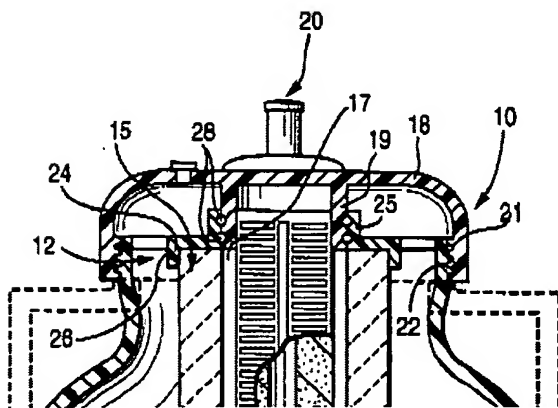
The modified '860 doesn't teach the wearable pack to be made of photovoltaic material.

However, Morrow teaches a photovoltaic material for a mobile camping apparatus [as in claims 22-23].

"Another object of this invention is to provide a mobile, expandable structure that the two top sections of the side sections can be covered with a waterproof photovoltaic material that will generate electrical power."

It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the photovoltaic material of Morrow on the outer surface of the wearable pack of the modified '860, since such would provide the benefit of producing free electrical power the UV devices when used in a remote area.

4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over '860, as modified by Carmignani, Engelhard, Iana, and Morrow above, and in further view of Nohren, Jr. (U.S. 6,193,886). The modified '860 teaches a user activated valve for signaling the powering up of the UV devices (see Engelhard expanded above) but doesn't teach such a valve to be a push-pull valve at the top of a container. However, Nohren teaches such a valve 20, as shown in his figure.



It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the push-pull valve at the top of the container of the modified '860, since such would provide the benefit of easy, quick useage by the camper. Upon modification, the

opening of the valve would activate the UV devices.

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5. Claims 1-2, 4 and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over '860 in view of Iana, Carmignani and Engelhard. Each of the references were expanded above. Upon modification of '860 with Iana, Carmignani and Engelhard, all the limitations of these claims are taught. The modifications are obvious given the reasons in above rejections.

6. Claim 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over 860 in view of Iana, Carmignani and Engelhard, as applied to claim 2 above and in further view of Forsberg. Forsberg teaches a DC battery powered source for the UV devices, as well as solar charged batteries (col. 1, lines 25-27; col. 10, lines 19-200; and col. 44, line 19) [as in claim 3 and 5]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the solar UV device power sources of Forsberg in the invention of Carmignani, since Forsberg teaches the benefit of using the device to purify water in places remote from conventional public power systems.

7. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over 860 in view of Iana, Carmignani, Engelhard and Forsberg, as applied above and in further view of Morrow. The modified '860 doesn't teach the wearable pack to be made of photovoltaic material. However, Morrow teaches a photovoltaic material for a mobile camping apparatus [as in claims 6-7].

"Another object of this invention is to provide a mobile, expandable structure that the two top sections of the side sections can be covered with a waterproof photovoltaic material that will generate electrical power."

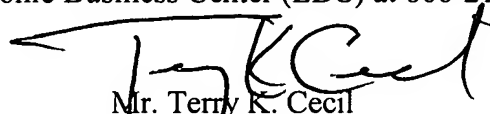
It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the photovoltaic material of Morrow on the outer surface of the wearable

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pack of the modified '860, since such would provide the benefit of producing free electrical power the UV devices when used in a remote area.

8. Contact Information:

- Examiner Mr. Terry K. Cecil can be reached at (571) 272-1138 at the Carlisle campus in Alexandria, Virginia for any inquiries concerning this communication or earlier communications from the examiner. Note that the examiner is on the increased flextime schedule but can normally be found in the office during the hours of 8:30a to 4:30p, on at least four days during the week M-F.
- David R. Sample, the examiner's supervisor can be reached on 571-272-1376, if attempts to reach the examiner are unsuccessful.
- The Fax number for this art unit for official faxes is (571) 273-8300.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mr. Terry K. Cecil
Primary Examiner
Art Unit 179797

TKC
January 6, 2008